IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	**Mail Stop:** **APPEAL BRIEF - PATENTS**
Kent Malmgren et al.	
Application No.: 09/651,130	Group Art Unit: 1771
Filed: August 3, 2000	Examiner: Victor S. Chang
For: ABSORBENT FOAM MATERIAL, A METHOD OF PRODUCING IT AND AN ABSORBENT STRUCTURE CONTAINING SAID FOAM MATERIAL	Confirmation No.: 1064
	Appeal No.: 2

REPLY BRIEF

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Examiner's Answer of 6 August 2007, applicants submit the following Reply Brief:

Remarks

In the Examiner's Answer, the Examiner remarks that "Chen teaches all the result effective manufacturing steps employed by the instant invention for making a foam which has substantially the same structure, composition, generally required properties, and use as the instant invention...."

This is facially inaccurate. Claim 1, for example, recites a list of properties for the foam (pore size, absorption rate, liquid distribution capacity, liquid storage capacity and gel liquid absorption) that are not necessarily provided by following the manufacturing steps of *Chen*. Producing the claimed foam requires a careful balancing between competing properties and this is not taught by *Chen*. The alleged steps, absent improper hindsight reconstruction, do not teach one skilled in the art to make the claimed invention. That is, one skilled in the art, following the teachings of *Chen*, is not taught the details and precise balancing of a) manner, b) timing, c) amounts, d) temperatures, e) concentrations, etc., necessary to arrive at the claimed invention.

In the Examiner's Answer, the Examiner remarks that "since Chen discloses that ... cells may become progressively smaller towards one region ... for preventing lateral liquid leakage from the surface, clearly Chen recognize that this optional feature effects a higher liquid retention (storage capacity) and a lower absorption rate (partially or substantially impervious)."

The disclosure the Examiner references may be found at column 15, lines 23-45 of *Chen* (e.g. "Gradients may extend in the plane, giving, for example, an article with large cells or pores in a central target region but with more closed cells or smaller pores near the side edges of the absorbent fibrous structure to prevent lateral leakage of fluid." Column 15, lines 40-45). This is simply a recognition that that closed cells or smaller pores are less likely to leak fluid and an absorbent structure may benefit from the location of these closed or small cells at the boundaries. This is not a recognition of providing an absorbent materials with both a high absorption rate or a high liquid storage capacity. For example, in the prior art, adjusting the process parameters to provide foam with a high absorption rate typically results in a low liquid storage capacity. And, adjusting the process parameters to provide a foam with a high liquid storage capacity typically results in a

low absorption rate. *Chen* does not recognize this concern. Nor, does *Chen* teach one skilled in the art how to overcome these competing properties.

In the Examiner's Answer, the Examiner again remarks that "Chen's invention is not limited by the conditions set forth in Example 3."

Appellants do not assert that *Chen* is specifically limited to the teachings of Example 3. However, the process details found in Example 3 are the only reasonable process details taught to one skilled in the art (as related to the claimed invention). Thus, the process details in Example 3 are what one skilled in the art would have been taught with regard to the a) manner, b) timing, c) amounts, d) temperatures, e) concentrations, etc. in conducting the steps upon which the Office relies.

In the Examiner's Answer, the Examiner remarks that "Appellants argue at page 7 that the instant invention unexpectedly discovered a foam that has optimized both absorption rate and liquid storage capacity. However, appellants have previously pointed out that Examples 1-3 and Table 1 of the present invention show that these two parameters have an opposing trend, i.e., they cannot be optimized simultaneously. Clearly, appellants' argument is incommensurate with their disclosure in the specification."

The Examiner appears to confuse what appellants argue regarding the prior art products compared to the claimed invention. That appellants have discovered a new absorbent foam which enables optimization of both parameters is precisely one reason why the presently invention is patentable. One skilled in the art could not simply optimize one variable (e.g., absorption rate), then hold that variable steady whilst optimizing another variable (e.g., liquid storage capacity) with the prior art products. Such an optimization was not known in the prior art and was not taught in *Chen*. Adjusting the process parameters affects both variables in the prior art products. Thus, according to the teachings of the prior art, once the absorption rate is optimized, attempts to change the process parameters to optimize liquid storage capacity will necessarily affect the absorption rate. Thus, in the prior art, only one parameter could be optimized. However, Appellants have unexpectedly discovered a *new* foam that has enabled optimization of both absorption rate and liquid storage

capacity.

In the Examiner's Answer, the Examiner remarks that "Chen's disclosure of a region, e.g., surface skin, of partially or substantially liquid impervious is interpreted as a layer being partially porous with progressively smaller cells, or substantially non-porous, the cell size gradient at the region reads on the pore size distribution between 0 to 3 μm of the instant invention as claimed. While Chen is silent about the term 'gel liquid', Chen's teachings clearly encompass the capability of gel liquid storage."

Chen is deficient of a teaching of a pore size less than 20 μm. Moreover, the disclosure of *Chen* is deficient of an indirect teaching of a pore size less than 20 μm. It is improper for the Examiner to suggest that "Chen's teaching clearly encompass the capability of gel liquid storage." There is no support for such a statement. In fact, *Chen* is focused on using foamable binder simply for storing capillary liquid. *Chen* is focused on a primarily fibrous absorbent structure with relatively little capillary pressure. To remedy the low capillary pressure of the fibrous structure, *Chen* discloses the use of foamable binder in a manner to also increase capillary pressure, thereby increasing capillary absorption. Thus, *Chen* is focused on using foamable binder for the purpose of simply storing capillary liquid. *Chen* does not suggest any other absorption function for the foamable binder. Therefore, the disclosure of *Chen*, provides no teaching or motivation for one skilled in the art to modify Chen to incorporate gel liquid storage, or the accompanying pore size between 0 and 3 μm, in an absorbent material.

Respectfully submitted,

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Date September 19, 2007 By: T.D.Boone

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